

ABSTRACT OF THE DISCLOSURE

A step motor includes a rotor having four magnetic poles, a first magnetic pole magnetically excited by a first coil, a second magnetic pole magnetically excited by a second coil, and a third magnetic pole magnetically excited by the first coil and the second coil. A gap between the third magnetic pole and the rotor is smaller than that between the first magnetic pole and the rotor and that between the second magnetic pole and the rotor. In the step motor, it is possible to intensify the influence, on the rotor having four poles, of the magnetic fields created from three magnetic poles. Accordingly, this can weaken the magnetic fields set up from the first magnetic pole and the second magnetic pole, which tend to intensify the influence on the rotor, enabling the torque smaller at the time of the rotation start of the rotor.